CLAIMS

1. A method for supplying an air separation unit (14) using a gas turbine (2), in which incoming air enters (via 16) an inlet of said separation unit (14), at least a fraction of said incoming air is supplied (via 16) from said gas turbine (2), at least one nitrogen-enriched gas stream is extracted (via 20, 24) from the separation unit (16), and this nitrogen-enriched gas stream is heated, characterized in that, to heat the nitrogen-enriched gas stream, heat exchange occurs between the fraction of incoming air issuing from the gas turbine (2) and a liquid fraction to be heated (54; 54') in a first heat exchanger (56), in order to obtain a heated liquid fraction (58), this heated liquid fraction (58) is added to a liquid mixture fraction (48), in order to obtain a liquid fraction to be cooled (60), and heat exchange occurs between this liquid fraction to be cooled (60) and the nitrogen-enriched gas stream in a second heat exchanger (50).

2. The supply method as claimed in claim 1 characterized in that at least part of the liquid mixture fraction (48) is supplied from the outlet of a boiler (38).

3. The supply method as claimed in one of the preceding claims, characterized in that at least part of the liquid fraction (52) cooled in the second heat exchanger (50) is returned to the inlet of a boiler (38).

4. The supply method as claimed in either of claims 2 and 3, characterized in that this boiler (38) is supplied with energy (via 36) using the gas turbine (2).

5. The supply method as claimed in either of claims 1 and 2, characterized in that at least part of the liquid fraction (52) cooled in the second heat exchanger (50) is returned (via 54') to the inlet of the first heat exchanger (56).

6. The supply method as claimed in any one of the preceding claims, characterized in that countercurrent heat exchange occurs between the liquid fraction to be heated (54; 54') and the incoming air fraction issuing from the gas turbine (2), and also between the liquid fraction to be cooled (60) and the nitrogen-enriched gas stream.

7. The supply as claimed in any one of the preceding claims, characterized in that the liquid is water.

8. An installation for supplying an air separation unit (14) using a gas turbine (2), comprising a gas turbine (2) comprising compressed air supply means, particularly a compressor (4), an air separation unit (14) comprising incoming air supply means (16) comprising at least first supply means (16), associated with the supply means (4) of the gas turbine (2), as well as means (20, 24) for removing at least one nitrogen-enriched gas stream, this installation further comprising means for heating the nitrogen-enriched gas stream, characterized in that these heating means comprise a first heat exchanger (56), in which the first incoming air supply means (16) circulate, intake means (54; 54') for a liquid fraction to be heated, terminating at the inlet of the first heat exchanger (56), means (58) for removing a heated liquid fraction, communicating with the outlet of the first heat exchanger, a second heat exchanger (50), in which means (20, 24) for removing the nitrogen-enriched gas stream circulate, intake means (60) for a liquid fraction to

be cooled, communicating with the inlet of the second heat exchanger, and means (52) for removing a cooled liquid fraction, communicating with the outlet of the second heat exchanger (50), and in that the means (58) for removing the heated liquid fraction communicate with the intake means (60) for the liquid fraction to be cooled.

9. The installation as claimed in claim 8, characterized in that the intake means for the liquid fraction to be cooled (60) communicate with a boiler (38).

10. The installation as claimed in either of claims 8 and 9, characterized in that the means (52) for removing the cooled liquid fraction communicate with the inlet of a boiler (38).

11. The installation as claimed in either of claims 9 and 10, characterized in that energy supply means (36) are provided, extending between the gas turbine (2) and this boiler (38).

12. The installation as claimed in either of claims 8 and 9, characterized in that the intake means (54') for the liquid fraction to be heated communicate with the means (52) for removing the cooled liquid fraction.

13. The installation as claimed in one of claims 8 to 12, characterized in that the heat exchangers (50, 56) are of the countercurrent type.